LBNL-47243 Abs.

This abstract was prepared for an invited oral presentation in the area of "Radionuclides: Their Behavior and Characterization in the Environment" to be presented at the American Chemical Society Western Regional Meeting in San Francisco, CA, October 25-28, 2000.

prepared: September 29, 2000

SYSTEM-CONTROLLING PROCESSES IN ENVIRONMENTAL ACTINIDE CHEMISTRY. **H. Nitsche**[1,2], P. J. Panak[2], C. H. Booth[2], and D. K. Shuh[2]
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The migration behavior of actinides is controlled by a variety of chemical and geochemical reactions. The true amount that is actually available for transport is defined as the actinide source term and not as true solubility, because it may be a combination of dissolved and colloidal material. Three major processes define the actinide source term: (1) solubility, (2) organic interaction, and (3) sorption. They are dependent on each other and each individual process is the result of several sub-processes. The current state of knowledge of several of these processes will be discussed and areas will be outlined where additional information is required. Emphasis will be given to actinide solution speciation and interaction with aerobic soil bacteria.

Acknowledgements: This work is supported by the U.S. Department of Energy under Contract No. DE-AC03-76SF00098